Amendments to the Drawings

The attached sheet of drawings includes changes to Fig. 3C. This sheet, which includes Fig. 3C, replaces the original sheet including Fig. 3C. In Fig. 3C, the second (lower) occurrence of reference numeral "J1" is corrected to read "J2".

Attachment: Replacement Sheet

Annotated Sheet Showing Changes

REMARKS

This Amendment is in response to the Office Action mailed on May 26, 2005. The Applicants amended drawing figure 3C to correct a reference numeral. Specifically, the second (lower) instance of "J1" is corrected to read "J2". Support for this correction may be found in paragraph (0050), on page 12, of the application as-filed.

In the Office Action, claim 1 was objected to because the term "section" in line 4 should be "second." The Applicants amended claim 1 as suggested by in the Office Action.

Claims 1, 3, 5-6, 8, and 28 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by McCurley et al., U.S. Patent No. 6,175,233 ("McCurley"), and claims 1, 3, 5-8, 11, 16, and 28-30 were rejected as allegedly being anticipated by Alfours, U.S. Patent No. 5,694,039 ("Alfours"). The Applicants note, with appreciation, the indication that claims 2, 4, 9-10, 12-15 and 17 would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims, and the indication that claims 18-27 were allowed. The Applicants amended claim 1 to incorporate the language of claim 2. Inasmuch as claim 2 was indicated as allowable, it is respectfully submitted that this amendment places claims 1-10 in condition for allowance. Claim 28 was also amended to add "said leakage flux path producing a voltage output from the secondary position sensor proportional to a voltage output of the primary position sensor produced by the primary flux path." It is respectfully submitted that this amendment places claims 28-30 in condition for allowance.

New claim 31 has been added, which is based on original claims 1, 8 and 9.

As to Alfours, it is respectfully submitted that the patent does not anticipate claims 11, 16, or claim 28, as amended. The angular position sensor disclosed in Alfours is not a leakage flux sensor assembly. Specifically, the protrusions 150/152 and 160/162 do not form a leakage flux path. One of ordinary skill in the art recognizes that the flux paths formed by

the angular position sensor disclosed in Alfours creates redundant primary flux paths for the purpose of providing a back-up in case one of the sensors fails. See col. 2, lines 6-19; col. 4, lines 46-50; and col. 5, lines 1-22.

It is respectfully submitted that the redundant nature of the flux paths of Alfours does not permit leakage flux between the parallel paths. That is, the polar similarity between the flux traveling along the parallel paths effectively repels or constrains the flux to independent parallel paths. There is no mixing or combining of the fields if the flux is substantially equal, as taught by Alfours. There is no teaching in Alfours of an asymmetric field, created by leakage or by shunting, as disclosed and claimed by the Applicants.

Furthermore, claim 11 recites "a magnetic flux source for generating a magnetic field that varies in a substantially linear manner." There is no teaching in Alfours of a magnetic flux source that varies in a substantially linear manner. To the contrary, it is respectfully submitted that those of ordinary skill in the art would appreciate that the flux experienced at the sensors in Alfours varies in a non-linear manner. The permanent magnet 30 in the position sensor of Alfours is disclosed to rotate about a central axis 132. See Fig. 6 and col. 4, line 17. As that permanent magnet 30 rotates about central axis 132, the relative positions of the poles of the magnet to the ferromagnetic pole pieces, and thus the flux experienced at the protrusions, continuously vary in a non-linear manner.

With respect to new claim 31, it is respectfully submitted that McCurly does not disclose placing a secondary position sensor in a leakage flux path of the primary flux path. While McCurly discloses placement of two Hall effect sensor elements (22) and (32), it is clear from the specification of McCurly that these sensors are disposed in entirely unrelated flux paths, in order to detect change in flux density in two different axes. For instance, as discussed in col. 3, lines 40, "[w]hen the actuator is only moved in a direction along the y-axis, there is no change in flux density detected by Hall effect sensor element 32 because the

actuator moves along slot 39 and does not push slide 38." Although there is no change in flux density detected by sensor (32), there is change in flux density detected by the sensor (22), i.e. the sensor used to detect linear position in the x-axis, as discussed in lines 33-40. If the sensor (32) were in the leakage flux path of the first flux path, then there would be a change in flux density detected by the sensor (32) whenever there was a change in flux density detected by the sensor (22). It is therefore respectfully submitted that claim 28, as amended, and the claims depending therefrom, are in condition for allowance.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that all claims pending in the application are in condition for allowance. The Examiner's reconsideration and favorable action are respectfully solicited. A check in the amount of $750.00, for three additional independent claims in excess of three, and three additional claims in excess of 20, is submitted herewith. In the event any additional fees are necessary in connection with the present Amendment, kindly charge the cost thereof to our Deposit Account No. 13-2855.

Respectfully submitted,

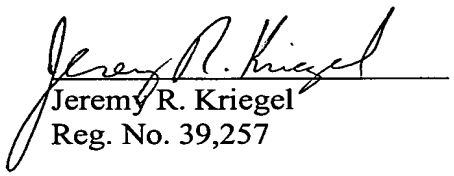

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FIG. 3C

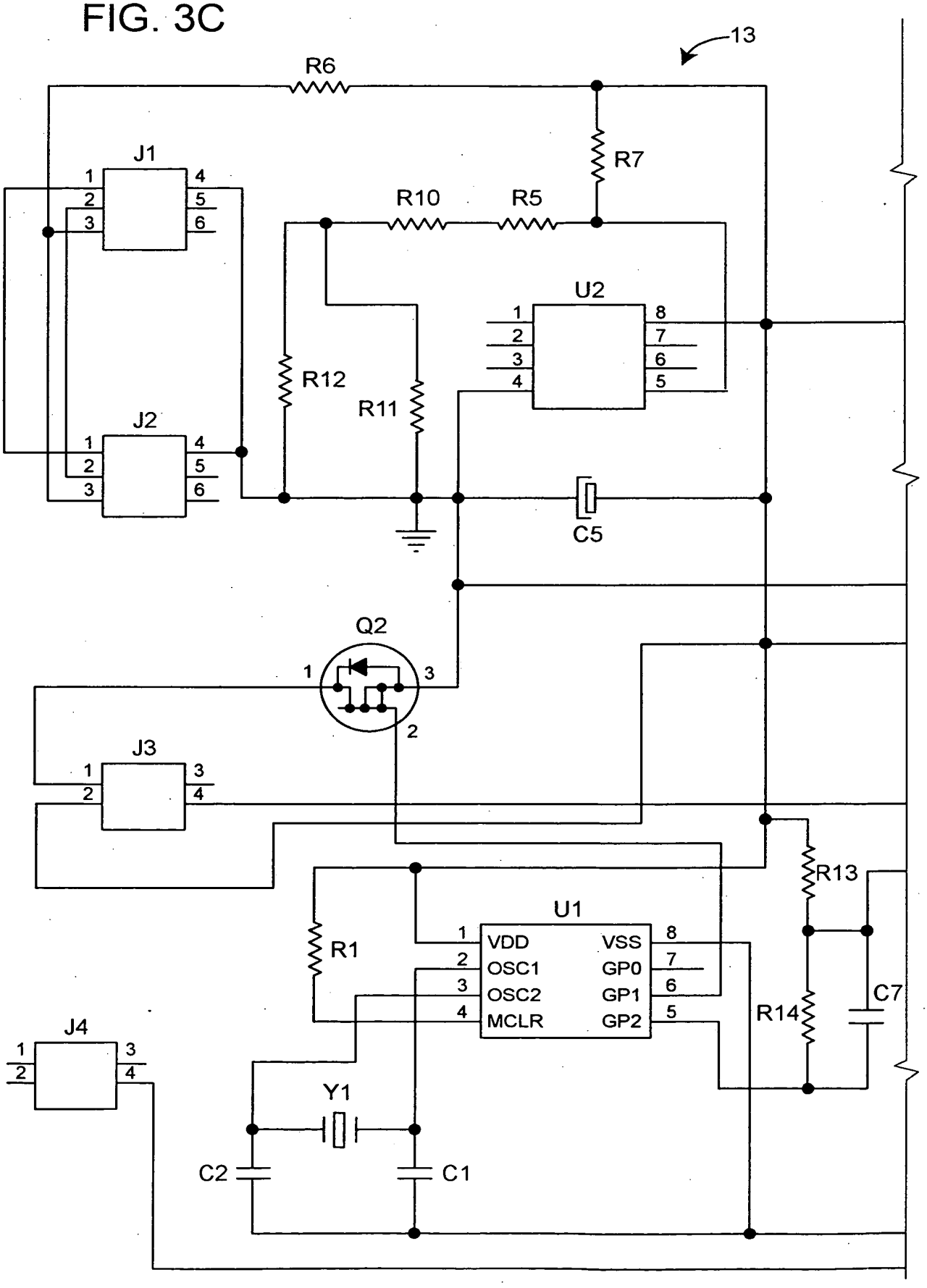

FIG. 3C